

**PROPULSION MOCKUP MAIN CLUTCH, DEVICE 19E5/1****TRAINING CATEGORY:**

PROPULSION ENGINEERING (Maintenance Equipment)

ORIGINATING AGENCY:

CNET

SECURITY CLASSIFICATION:

Device 19E5/1 is unclassified.

INTENDED USE:

Device 19E5/1 will be used in a classroom to assist an instructor in demonstrating the general configuration, operation, and maintenance procedures for the main propulsion clutch used on the LM 2500 gas turbine engine.

a. To identify parts, show relationship between parts, and demonstrate the sequence of actions of the main propulsion clutch of the LM 2500 marine engine.

b. To demonstrate operations and fundamental shipboard maintenance procedures as associated with the main propulsion clutch LM 2500 marine engine.

FUNCTIONAL DESCRIPTION:

Device 19E5/1 is one-half scale, three-dimensional, hand-operable mockup of the main propulsion clutch of the LM 2500 marine engine utilized in a DD 963 Class Destroyer. The training aid shows the friction clutch, dental element and braking action of the actual equipment. Portions are cutaway for better visibility of components which are color coded and identified to enhance presentation.

The mockup is mounted on a table type base with four (4) rubber-tired, locking swivel casters.

A plastic vinyl cover is supplied to cover the training aid.

Parts are color coded as follows:

Olive	Hydraulic Oil
Dark Green	Lube Oil

DIRECTORY OF NAVAL TRAINING DEVICES

The device may be used to demonstrate the following operating procedures and maintenance steps:

Friction clutch engagement and disengagement with prime mover.

Operation of friction clutch elements.

Movement of dental clutch piston during engagement-disengagement.

Action of dental element limit switches.

Operation of brake assembly.

Braking action of the turbine shaft and propeller shaft.

Operation of the brake indicating limit switch.

Field balancing procedures.

Emergency jacking screw procedures.

The instructor may repeat all or any part of the demonstration or may permit trainees to participate in the demonstrations.

OPERATION:**CAUTION:**

Do not use excessive force on any control or component. Damage to the device may result.

Move control handle A to operate dental clutch piston to demonstrate movement of dental clutch piston during engagement-disengagement, and action of dental element limit switches.

Move control handle B to operate brake assembly to illustrate operation of brake assembly, braking action of the turbine shaft and propeller shaft and the brake indicating limit switch.

Move control handle C to operate friction clutch engagement-disengagement and operation of friction clutch elements.

To illustrate emergency jacking system, remove three (3) plastic bolts, insert emergency jack threaded rods into rods on piston. Simulate jacking by threading center bolt into center hole and turning to jack piston.

PHYSICAL INFORMATION:

Number of Pieces: Three (3)

Size: 35" x 21" x 47"

Weight: 65 lbs.

ENVIRONMENTAL CHARACTERISTICS:

Operates in a temperature range of -13° to +125° F., and a humidity range of up to 95%.

PUBLICATIONS FURNISHED:

Guide for T/A Operable Mockup, Main Propulsion Clutch NAVTRADEV P-3972 (U)

PERSONNEL:

Instructor: One (1) qualified to instruct in DD963 propulsion system power train.

Trainees: Class of up to 30

Maintenance: No maintenance other than routine cleaning is required.

CONTRACT IDENTIFICATION:

Manufactured by Lester Associates, Inc., Thornwood, NY under NAVTRASYSSEN Contract No. N61339-73-C-0126.

LOCAL STOCK NUMBER:

6910-LL-C00-3124